

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
21 May 2004 (21.05.2004)

PCT

(10) International Publication Number
WO 2004/042414 A1

(51) International Patent Classification⁷: **G01R 33/30**

[GB/GB]; 112 Bulan Road, Headington, Oxford OX3 7HX (GB).

(21) International Application Number:

PCT/GB2003/004771

(74) Agents: GILL JENNINGS & EVERY et al.; Broadgate House, 7 Eldon Street, London, EC2M 7LH (GB).

(22) International Filing Date:

5 November 2003 (05.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0225898.6

6 November 2002 (06.11.2002) GB

(71) Applicant (for all designated States except US): **OXFORD INSTRUMENTS SUPERCONDUCTIVITY LIMITED**
[GB/GB]; Old Station Way, Eynsham, Witney, Oxon OX8 1TL (GB).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,

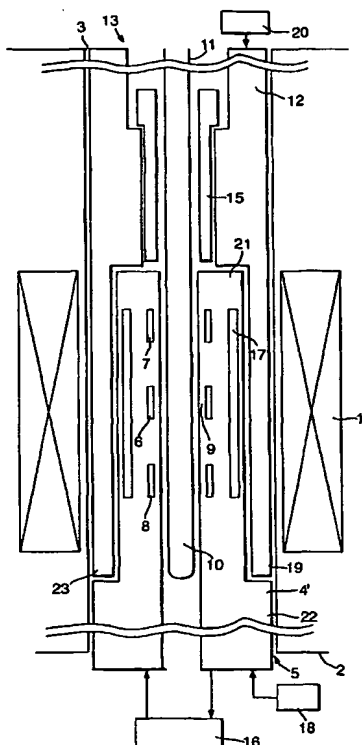
(72) Inventor; and

(75) Inventor/Applicant (for US only): **GRIFFIN, Adrian, P.**

[Continued on next page]

(54) Title: **APPARATUS FOR USE IN NMR SYSTEM**

(57) Abstract: Apparatus for use in a NMR system comprises a magnetic field generator (1) surrounding a bore (3), for generating a magnetic field in a working volume (9) located in the bore. A sample support (11) can be removably inserted into a first end of the bore (3) so as to locate a sample in the working region (9). A probe (4) carrying RF generating and receiving coils (6-8) can be removably inserted into the other, second end of the bore (3) so as to locate the RF coils adjacent the working volume. A set of shim coils (19) located in the bore (3) about the working volume (9) cooperate with the magnetic field generator (1) to create a magnetic field in the working volume of sufficient uniformity to perform a NMR experiment on a sample. The RF receiving and generating coils (6-8) are located in a reduced diameter section of the probe (4) at its leading end. At least some of the shim coils (19) are located on a support (23) surrounding the reduced diameter section of the probe.





SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*